10024632 .050602

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	
Steve S. HE *et al.*	Art Unit: To be assigned
Appl. No.: 10/024,632	Examiner: To be assigned
Filed: December 19, 2001	Atty. Docket: 16517.001/38-21(51837)B
For: ***Nucleic Acid Molecules Associated with Plant Cell Proliferation and Growth and Uses Thereof***	

Preliminary Amendment and Response to Notice to File Missing Parts

Box Missing Parts

Commissioner for Patents
Washington, D.C. 20231

Sir:

In response to the Notice to File Missing Parts mailed March 5, 2002 ("Notice"), Applicants submit the following remarks.

AMENDMENTS

In the Specification:

Please amend the specification as follows:

At page 7, lines 17-18, please cancel the reference to Figure 3.

Please delete the text of the specification beginning at page 7, line 19 through page 8, line 1, and replace it with the following:

Figure 3 shows a plasmid map for plant transformation vector pMON57913.

Figure 4 shows a plasmid map for plant transformation vector pMON57914.

Figure 5 shows a plasmid map for plant transformation vector pMON57955.

Figure 6 shows a plasmid map for plant transformation vector pMON57925.

Figure 7 shows a plasmid map for plant transformation vector pMON57926.

Figure 8 shows a plasmid map for plant transformation vector pMON57927.

Figure 9 shows a plasmid map for plant transformation vector pMON57928.

Figure 10 shows a plasmid map for plant transformation vector pMON57929.

Figure 11 shows a plasmid map for plant transformation vector pMON57930.

Figure 12 shows a plasmid map for plant transformation vector pMON57931.

Figure 13 shows a plasmid map for plant transformation vector pMON57932.

Figure 14 shows a plasmid map for plant transformation vector pMON57933.

Figure 15 shows a plasmid map for plant transformation vector pMON57934.

Figure 16 shows a plasmid map for plant transformation vector pMON57988.

Figure 17 shows a plasmid map for plant transformation vector pMON57991.

Figure 18 shows a plasmid map for plant transformation vector pMON71250.

Please delete the paragraph on page 53, lines 24-32, and replace it with the following paragraph:

The relative relatedness (phylogenic tree) of GhANT1, *ANT*, GmANT1, GmANT2, OsANT1 and ZmANT1 is examined. The multiple alignment was first performed according to the procedure described for Figure 2 and then the phylogenic tree was constructed using the software PHYLIP (Phylogeny Inference Package) version 3.5c provided as: "Felsenstein, J. 1993. PHYLIP version 3.5c. Distributed by the author. Department of Genetics, University of Washington, Seattle." Subroutines and parameters used were: "seqboot" (parameter: –D 'Molecular sequences' –R 100 –J 'Bootstrap'), "protdist" (parameter: –P 'PAM', –M 'Yes 100'), "kitsch" (parameter: –U 'Yes', –P 2.00000, –L 'No' –R 'No' –S 'No' –J 'No' –M 'Yes, 100' – 'No'), and "consense" (parameter: –R 'Yes').

Please delete the paragraph on page 54, lines 1-4, and replace it with the following paragraph:

Genome-wide search suggests that *Arabidopsis* has only one *ANT* gene (g1244708), while unexpectedly rice apparently has two *ANT*-like genes (OsANT1 and OsANT2). The *ANT*-like genes appear diverged between monocots and dicots and that the cotton GhANT1 may not be the closest *ANT*-like gene from that species.

In the Drawings:

Please replace original figures 4 through 19 with renumbered drawings 3 through 18, filed herewith. In accordance with 37 C.F.R. § 1.121(d), the changes to the drawings have been submitted on a separate paper showing the proposed changes in red ink.

REMARKS

The Notice identifies that Figure 3 has inadvertently been omitted from the application as filed. The Notice requires Applicants to either (1) prove deposit of the drawing in the U. S. Patent and Trademark Office, (2) submit the drawing and accept the date upon which the drawing was submitted as the filing date of the application, of (3) accept the application as deposited in the USPTO without the drawing.

Applicants respectfully point out that although the Office of Initial Examining Procedure ("Office") presumes that a drawing is necessary under the first sentence of 35 U.S.C. § 113 "in all applications where the drawing is referred to in the specification and one or more figures have been omitted", an application is not incomplete if, in fact, the drawing is not required. MPEP § 608.02, page 600-86. Applicants also respectfully point out that "[a] drawing is not required for a filing date under 35 U.S.C. 111 and 113 if the application contains:

> (A) at least one process claim including the term "process" or "method" in its introductory phrase"

Id. Applicants respectfully direct the Office's attention to claims 19, 20, 22, 24, and 29-34, which are method and process claims in the originally filed application.

Applicants submit that although Figure 3 was referenced in the above-filed application, the disclosure of Figure 3 is not "necessary for the understanding of the subject matter sought to be patented" 35 U.S.C. § 113. Rather, original Figure 3 merely illustrates the information presented in Table 1 and Table 2 of the specification. *See* Specification at page 8, line 26 through page 10, line 4. Applicants reserve the right to supply original Figure 3 should the Examiner request its submission during prosecution of the patent application, because Applicants believe the subject matter admits of illustration. Nonetheless, in order to facilitate prosecution, Applicants have amended the specification to delete all references to original Figure 3 and have submitted new copies of the drawings with consecutive numbering. No new matter enters by these amendments.

Applicants do not believe that any fees are due at this time; however, should any fees be required for any reason relating to this document, the Commissioner is authorized to deduct the fees from Deposit Account No. 13-4125, referencing docket number 38-21(51837)B.

Respectfully submitted,

Lawrence M. Lavin, Jr.
by

Lawrence M. Lavin, Jr. (Reg. No. 30,768)
by June E. Cohan (Reg. No. 43,741)

Date: 6 May 2002

Monsanto Company
800 N. Lindbergh Blvd.
Mail Zone N2NB
St. Louis, MO 63167
314-694-3602 telephone
314-694-1671 facsimile

Marked-up Version Showing Changes to be Made

In the specification at page 7, line 19 through page 8, line 1:

Figure [4]3 shows a plasmid map for plant transformation vector pMON57913.

Figure [5]4 shows a plasmid map for plant transformation vector pMON57914.

Figure [6]5 shows a plasmid map for plant transformation vector pMON57955.

Figure [7]6 shows a plasmid map for plant transformation vector pMON57925.

Figure [8]7 shows a plasmid map for plant transformation vector pMON57926.

Figure [9]8 shows a plasmid map for plant transformation vector pMON57927.

Figure [10]9 shows a plasmid map for plant transformation vector pMON57928.

Figure [11]10 shows a plasmid map for plant transformation vector pMON57929.

Figure [12]11 shows a plasmid map for plant transformation vector pMON57930.

Figure [13]12 shows a plasmid map for plant transformation vector pMON57931.

Figure [14]13 shows a plasmid map for plant transformation vector pMON57932.

Figure [15]14 shows a plasmid map for plant transformation vector pMON57933.

Figure [16]15 shows a plasmid map for plant transformation vector pMON57934.

Figure [17]16 shows a plasmid map for plant transformation vector pMON57988.

Figure [18]17 shows a plasmid map for plant transformation vector pMON57991.

Figure [19]18 shows a plasmid map for plant transformation vector pMON71250.

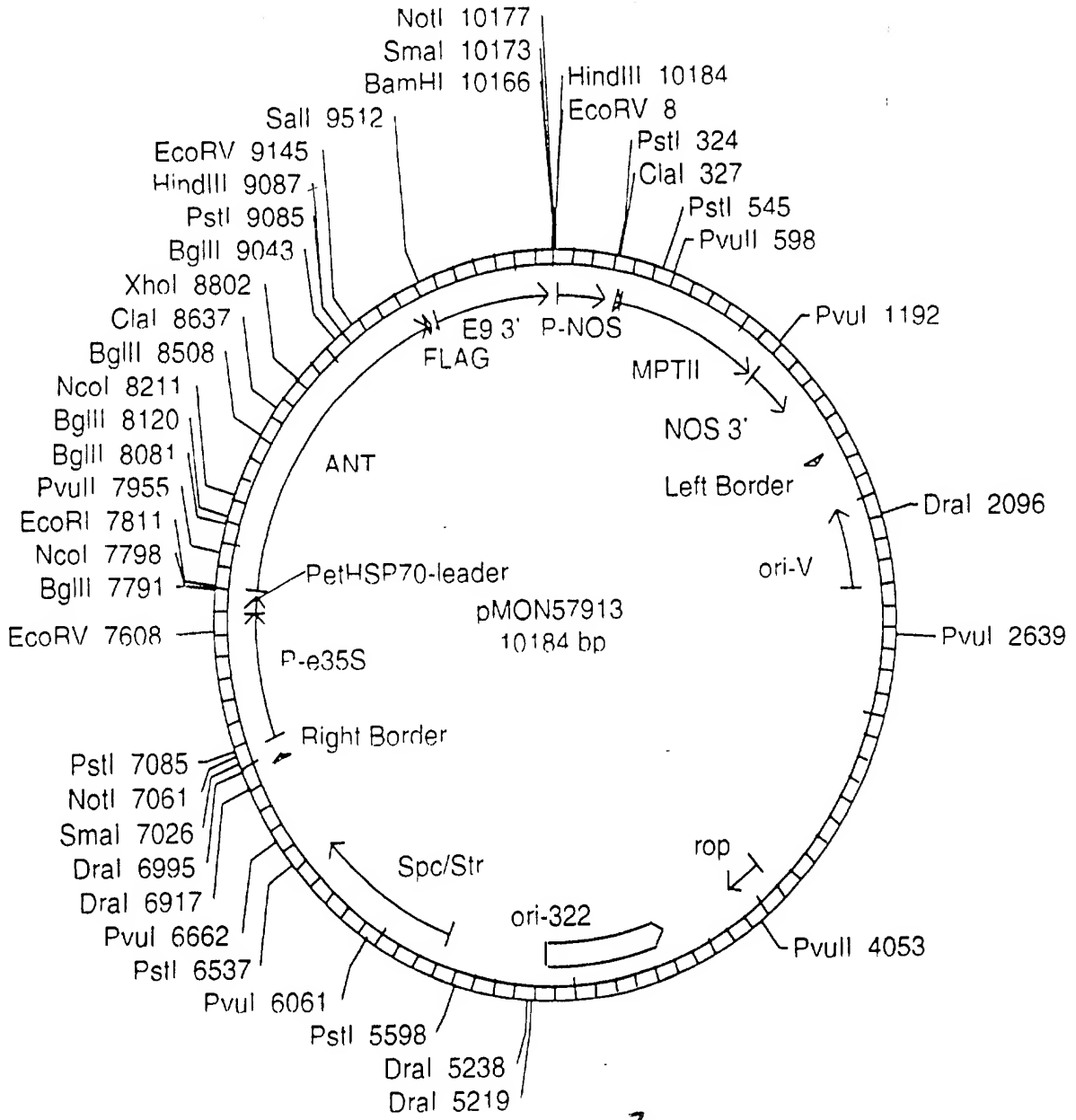
In the specification at page 53, lines 24-32:

The relative relatedness (phylogenic tree) of GhANT1, *ANT*, GmANT1, GmANT2, OsANT1 and ZmANT1 is [shown in Figure 3 (for SEQ ID's, see figure)] examined. The multiple alignment was first performed according to the procedure described for Figure 2 and then the phylogenic tree was constructed using the software PHYLIP (Phylogeny Inference Package) version 3.5c provided as: "Felsenstein, J. 1993. PHYLIP version 3.5c. Distributed by the author. Department of Genetics, University of

Washington, Seattle." Subroutines and parameters used were: "seqboot" (parameter: –D 'Molecular sequences' –R 100 –J 'Bootstrap'), "protdist" (parameter: –P 'PAM', –M 'Yes 100'), "kitsch" (parameter: –U 'Yes', –P 2.00000, –L 'No' –R 'No' –S 'No' –J 'No' –M 'Yes, 100' – 'No'), and "consense" (parameter: –R 'Yes').

In the specification at page 54, lines 1-4:

Genome-wide search suggests that *Arabidopsis* has only one *ANT* gene (g1244708), while unexpectedly rice apparently has two *ANT*-like genes (OsANT1 and OsANT2). [Figure 3 show that the] The *ANT*-like genes appear diverged between monocots and dicots and that the cotton GhANT1 may not be the closest *ANT*-like gene from that species.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PstI 9085
BglII 9043
XhoI 8802
ClaI 8637
BglII 8508
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BglII 8120
BglII 8081
PvuII 7955
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NcoI 7798
BglII 7791
EcoRV 7608
PstI 7085
NotI 7061
SmaI 7026
DraI 6995
DraI 6917
PvuI 6662
PstI 6537
PvuI 6061
PstI 5598
DraI 5238
DraI 5219
DraI 2096
PvuI 2639
PvuII 4053
E9 3'
P-NOS
FLAG
MPTII
NOS 3'
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Figure 3

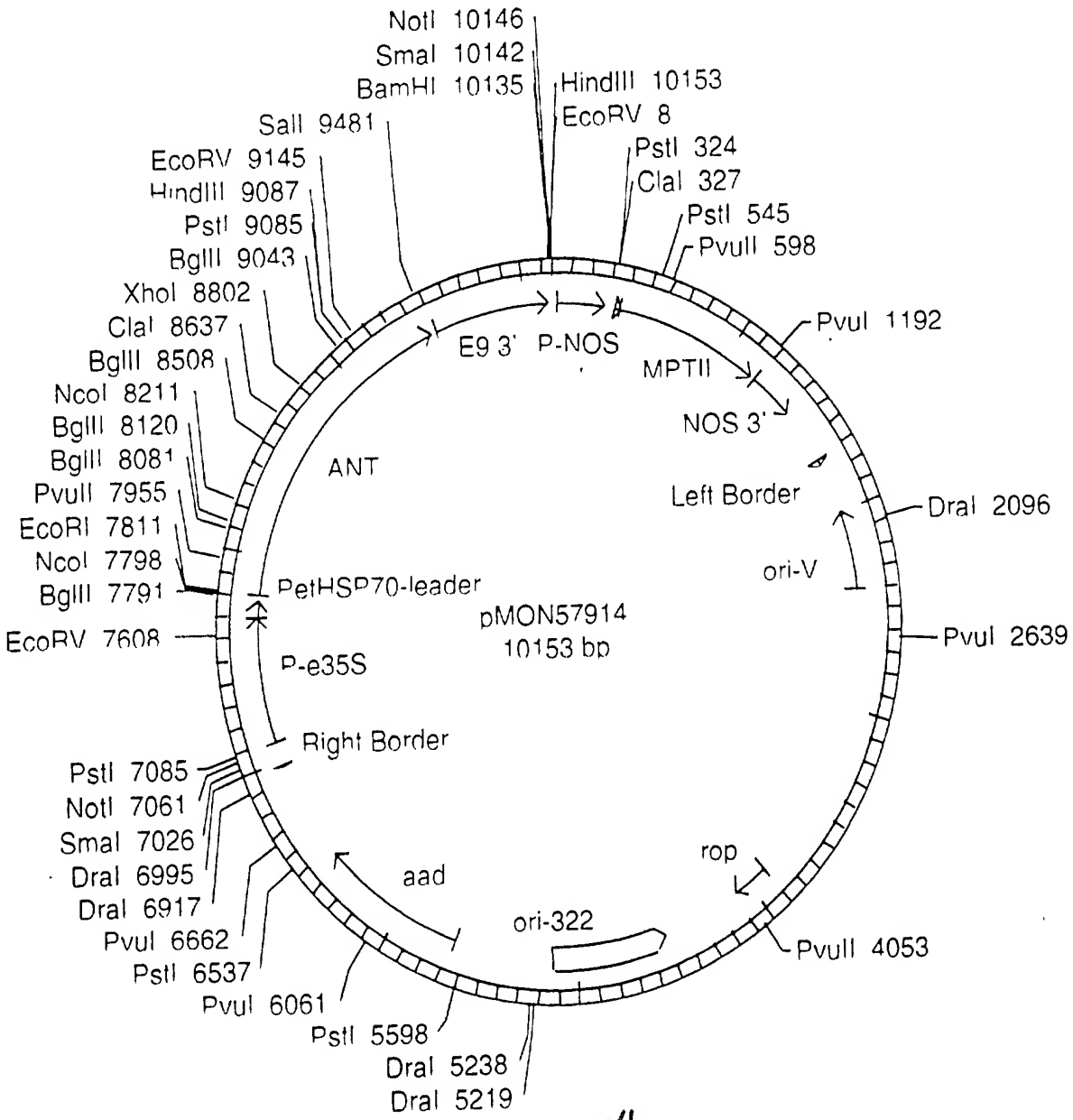
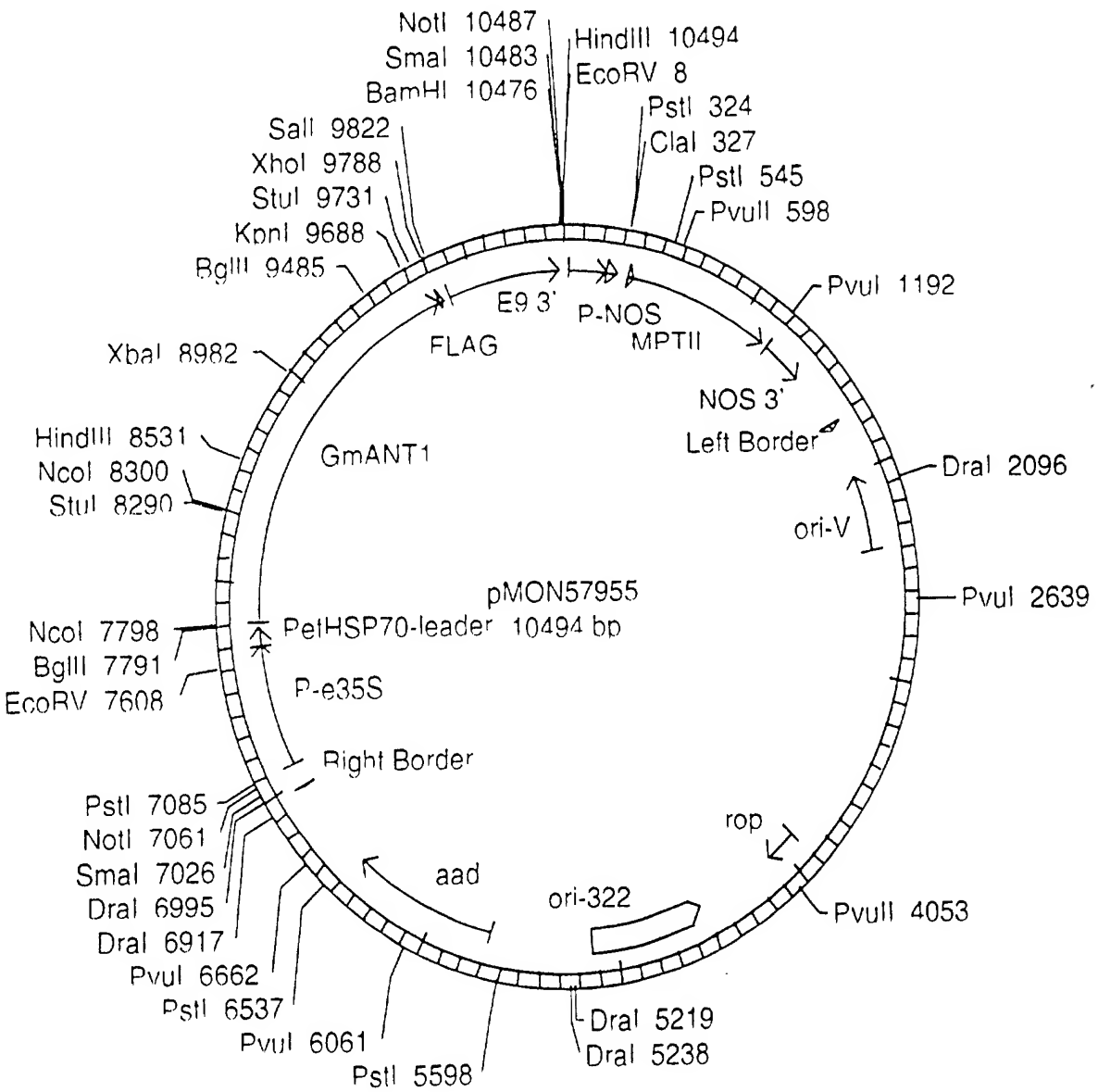


Figure 4

4100265 05/06/02

Figure 5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SalI 9822
XhoI 9788
StuI 9731
KpnI 9688
BglII 9485
XbaI 8982
HindIII 8531
NcoI 8300
StuI 8290
NcoI 7798
BglII 7791
EcoRV 7608
PstI 7085
NotI 7061
SmaI 7026
DraI 6995
DraI 6917
PvuI 6662
PstI 6537
PvuI 6061
PstI 5598
DraI 5219
DraI 5238
PvuII 4053
DraI 2096
PvuI 2639
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FLAG
MPTII
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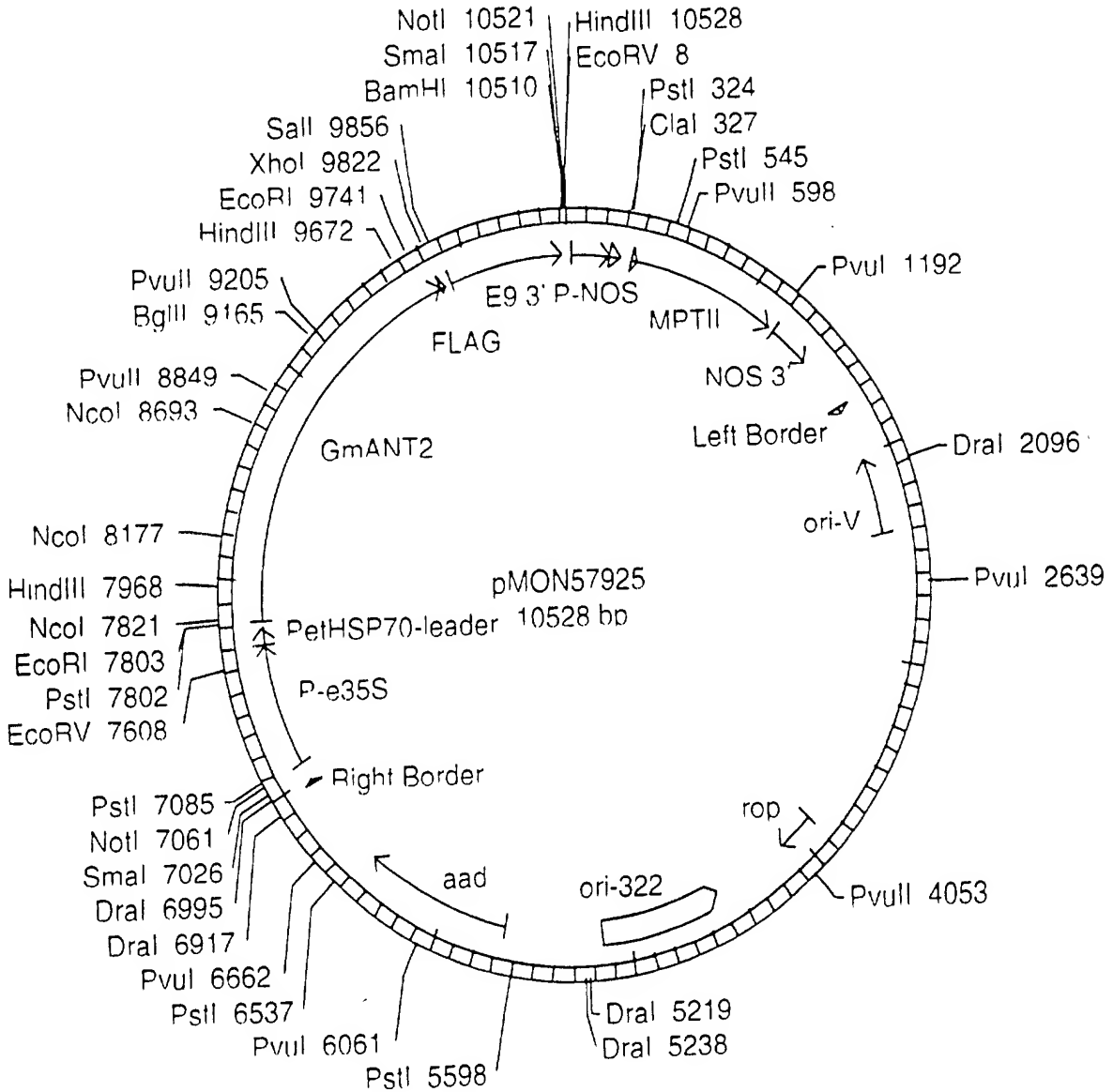
ori-322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DraI 2096
PvuI 2639
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DraI 5219
DraI 5238
PstI 5598
PvuI 6061
PstI 6537
PvuI 6662
DraI 6917
DraI 6995
SmaI 7026
NotI 7061
PstI 7085
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P-e35S
PetHSP70-leader
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EcoRI 7803
NcoI 7821
HindIII 7968
NcoI 8177
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BglII 9165
PvuII 9205
HindIII 9672
EcoRI 9741
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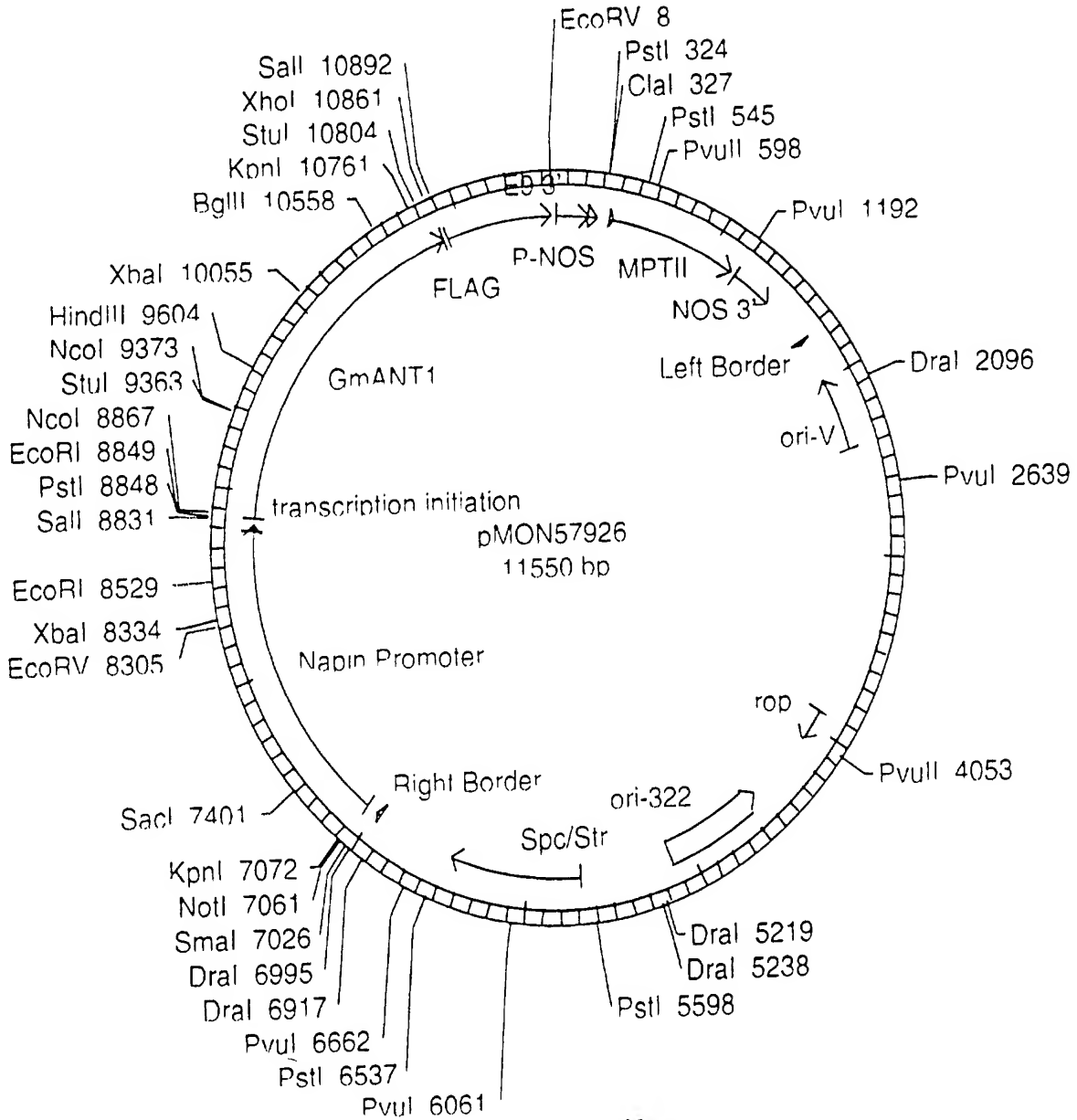
Figure 6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BglII 10558
XbaI 10055
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StuI 9363
NcoI 8867
EcoRI 8849
PstI 8848
SalI 8831
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XbaI 8334
EcoRV 8305
SacI 7401
KpnI 7072
NotI 7061
SmaI 7026
DraI 6995
DraI 6917
PvuI 6662
PstI 6537
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PstI 5598
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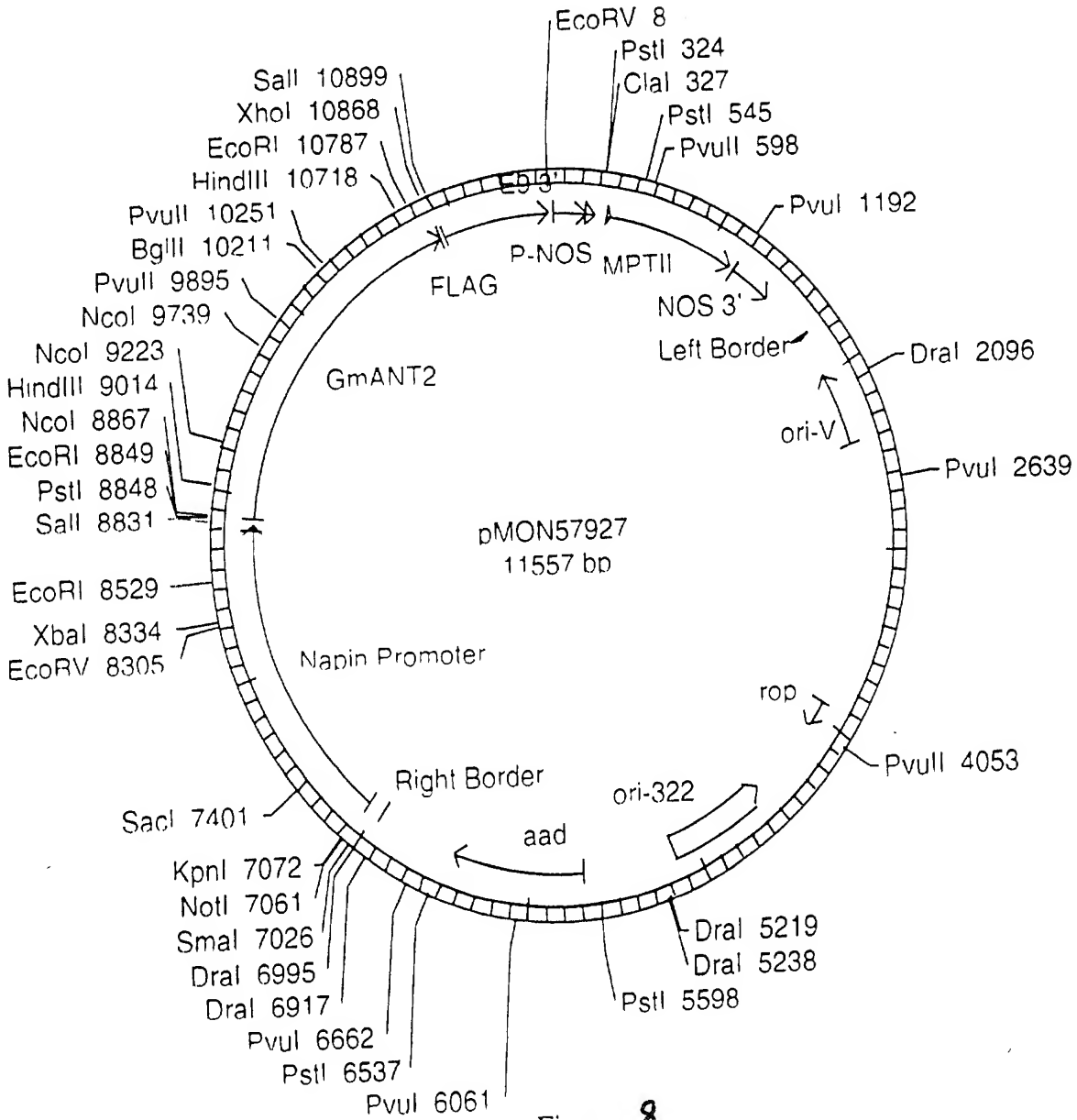
Figure 7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NOS 3'
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ori-V
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11557 bp
rop
PvuII 4053
Right Border
ori-322
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DraI 5238
PstI 5598
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XhoI 10868
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BglII 10211
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NcoI 9223
HindIII 9014
NcoI 8867
EcoRI 8849
PstI 8848
SalI 8831
EcoRI 8529
XbaI 8334
EcoRV 8305
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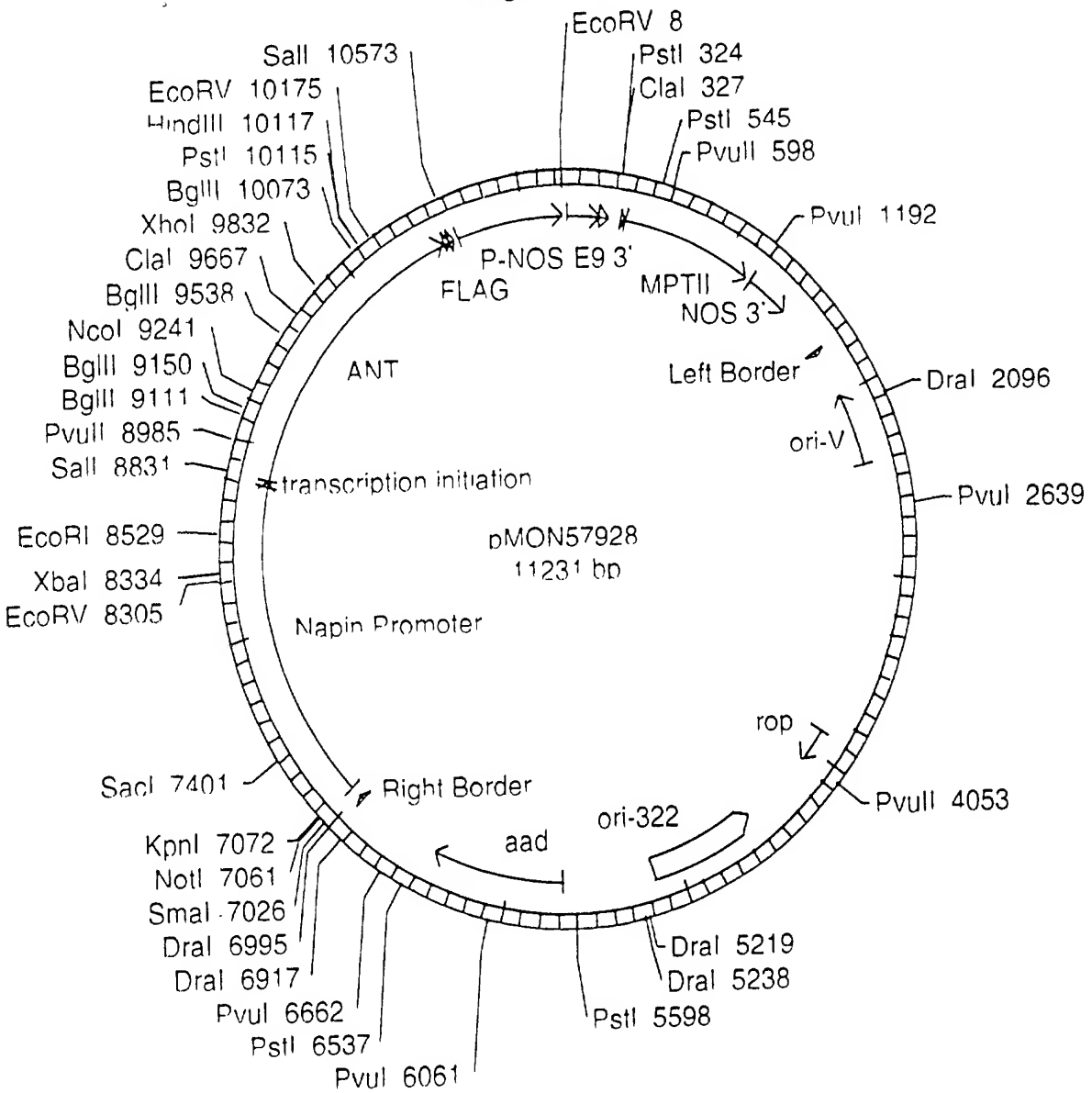
Pvul 6061

Figure 8

Figure 9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PvuII 4053
DraI 5219
DraI 5238
PstI 5598
PvuI 6061
PstI 6537
PvuI 6662
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DraI 6995
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EcoRV 8305
SalI 8831
PvuII 8985
BglII 9111
BglII 9150
NcoI 9241
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ClaI 9667
XhoI 9832
BglII 10073
PstI 10115
HindIII 10117
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SalI 10573
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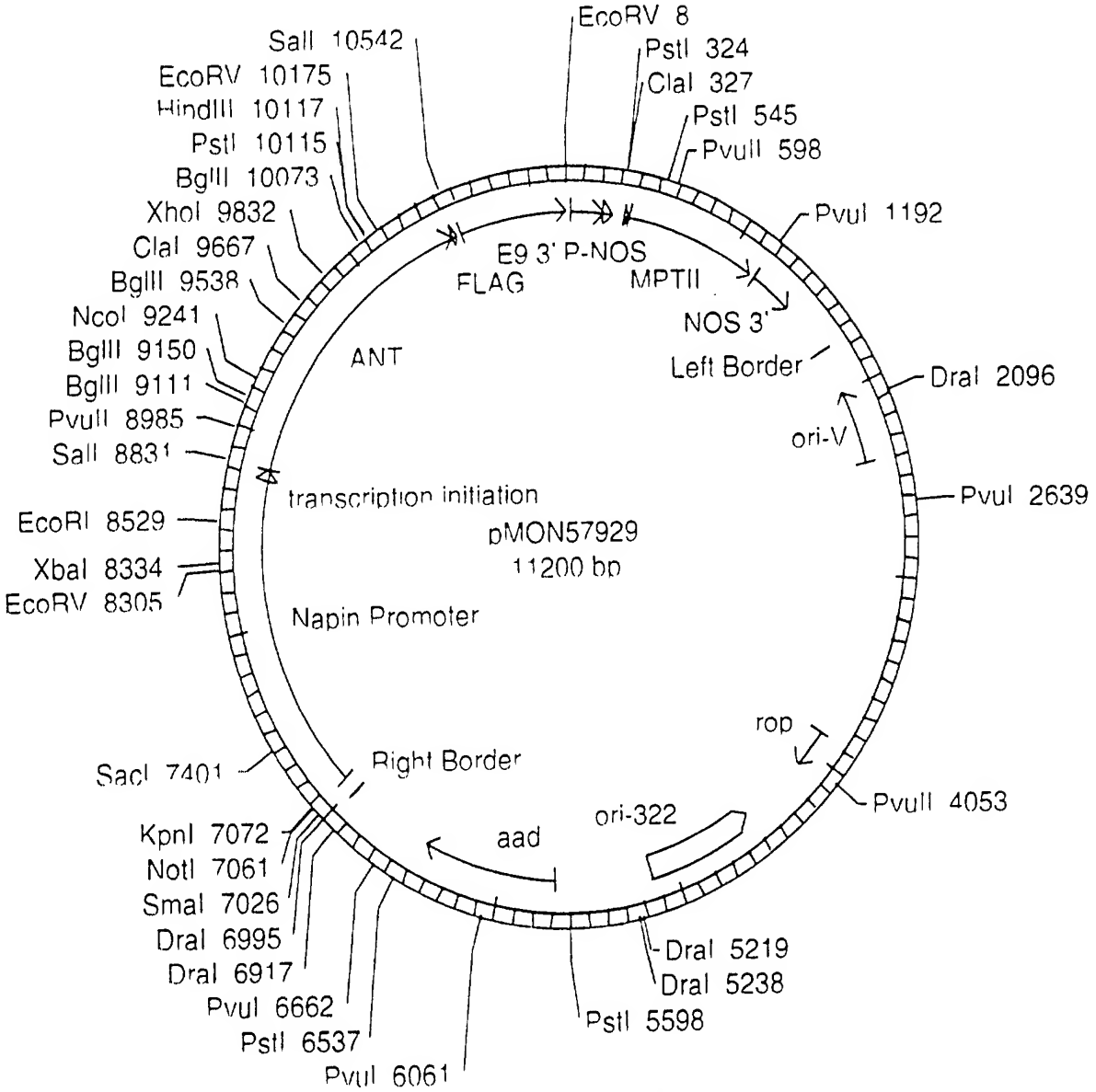
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PvuI 2639
rop
PvuII 4053
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DraI 5219
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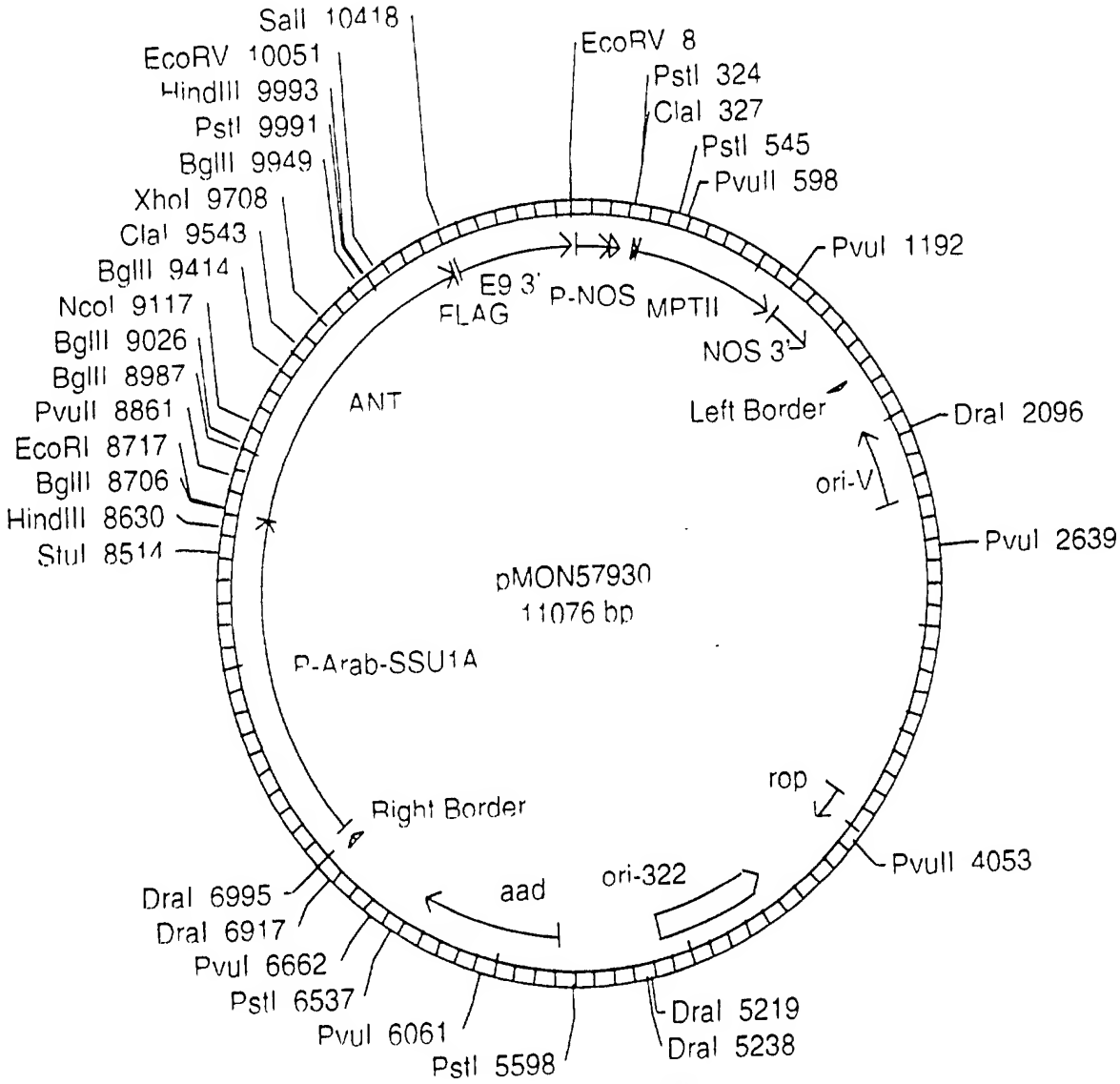
Figure 10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StuI 8514
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DraI 6917
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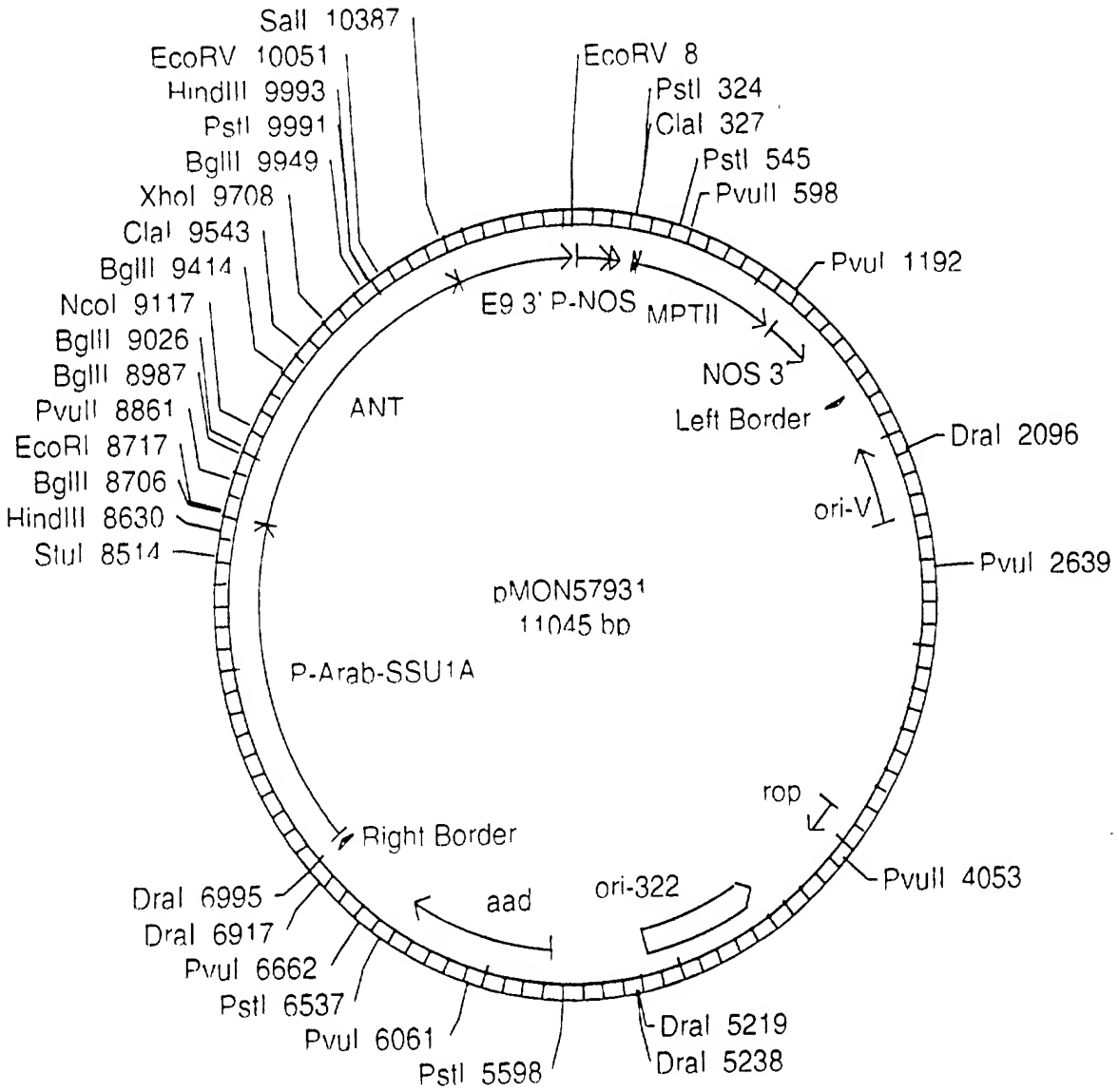
DraI 5238

Figure 11

Figure 12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PstI 545
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NOS 3
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PvuI 2639
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ANT
P-Arab-SSU1A
rop
Right Border
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ori-322
aad
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PstI 6537
PvuI 6061
PstI 5598
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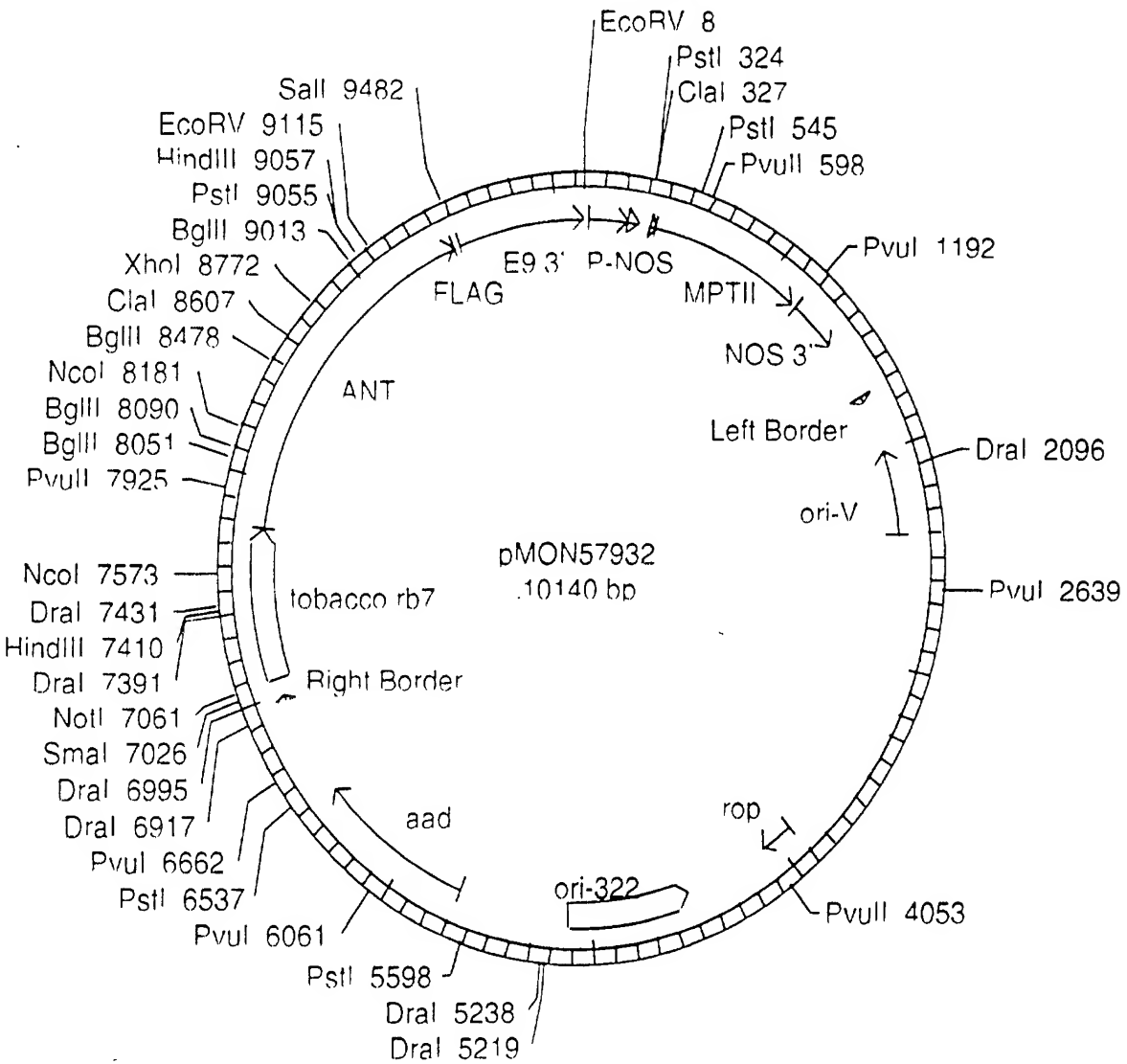
DraI 5238

Figure 13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HindIII 9057
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XhoI 8772
ClaI 8607
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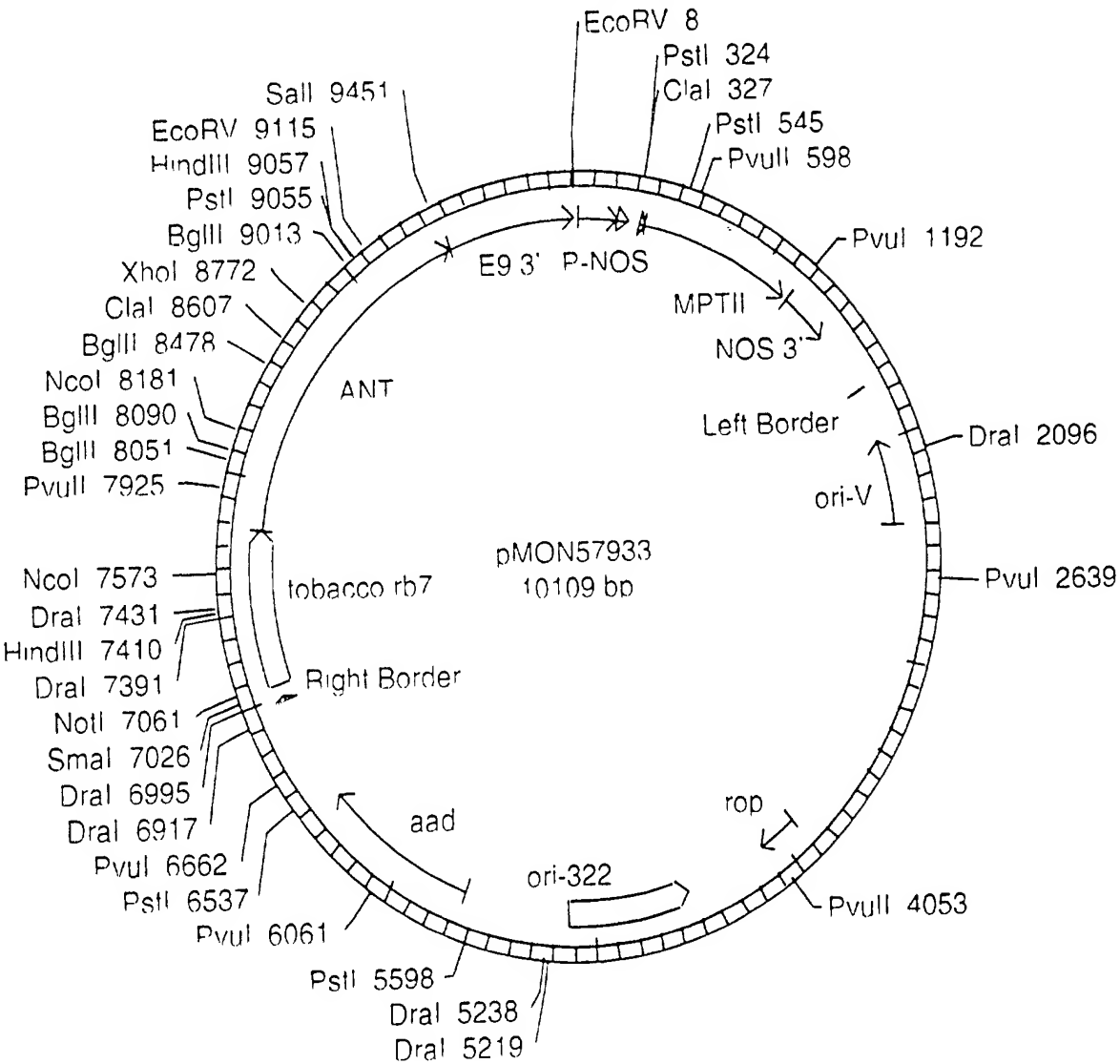
Figure 14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E9 3' P-NOS
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ori-V
Pvul 2639
PvuII 4053
rop
ori-322
aad
PstI 5598
DraI 5238
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PvuI 6662
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SmaI 7026
NotI 7061
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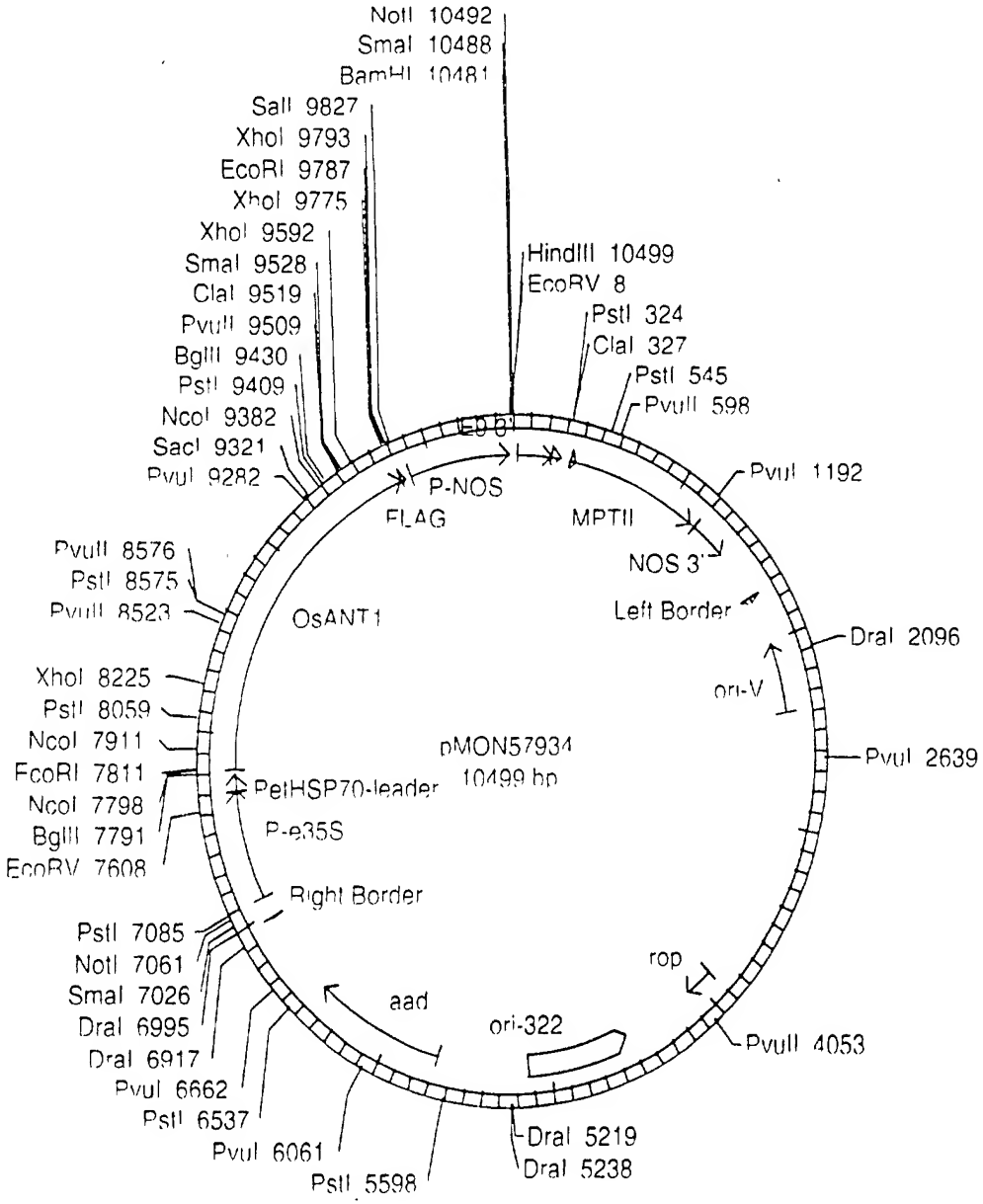
Figure 15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PvuII 9509
BglII 9430
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PvuI 1192
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PvuI 2639
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DraI 5238
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PvuI 6061
PstI 6537
PvuI 6662
DraI 6917
DraI 6995
SmaI 7026
NotI 7061
PstI 7085
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PetHSP70-leader
BglII 7791
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PstI 8059
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aad
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10499 bp

Figure 16

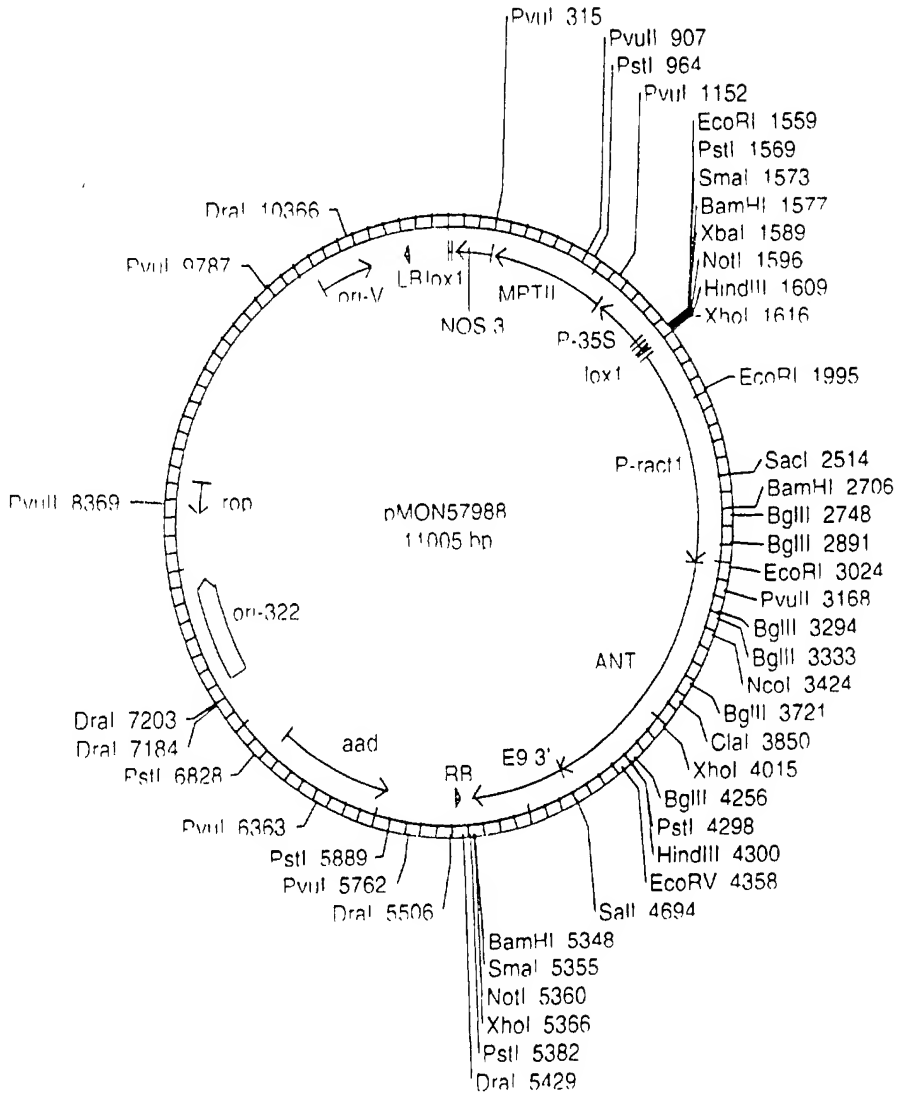

pMON57988
11005 bp
PvuI 315
PvuII 907
PstI 964
PvuI 1152
EcoRI 1559
PstI 1569
SmaI 1573
BamHI 1577
XbaI 1589
NotI 1596
HindIII 1609
XhoI 1616
EcoRI 1995
SacI 2514
BamHI 2706
BglII 2748
BglII 2891
EcoRI 3024
PvuII 3168
BglII 3294
BglII 3333
NcoI 3424
BglII 3721
ClaI 3850
XhoI 4015
BglII 4256
PstI 4298
HindIII 4300
EcoRV 4358
SalI 4694
BamHI 5348
SmaI 5355
NotI 5360
XhoI 5366
PstI 5382
DraI 5429
DraI 5506
PvuI 5762
PstI 5889
PvuI 6363
PstI 6828
DraI 7184
DraI 7203
PvuII 8369
PvuI 9787
DraI 10366
LB/ox1
NOS 3
MPTII
P-35S
lox1
P-act1
ANT
E9 3'
RB
aad
ori-322
ori-V
rop

Figure 17

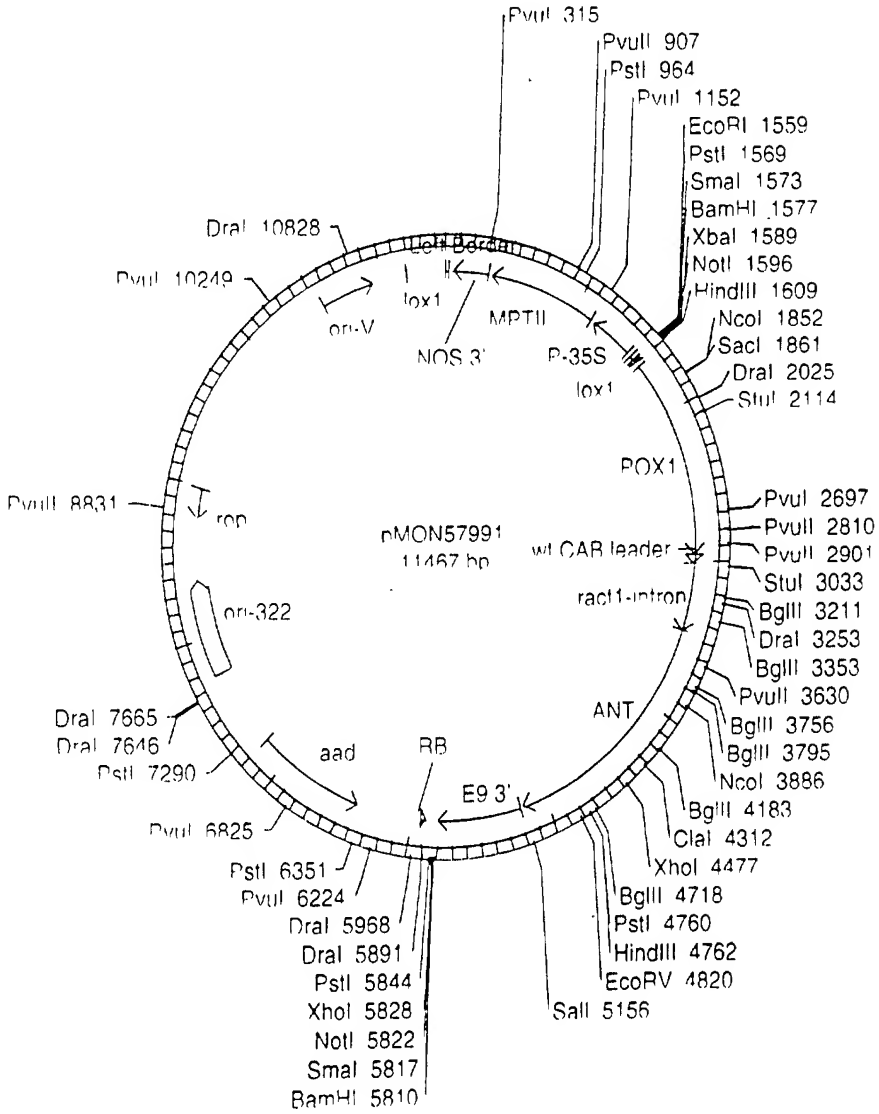
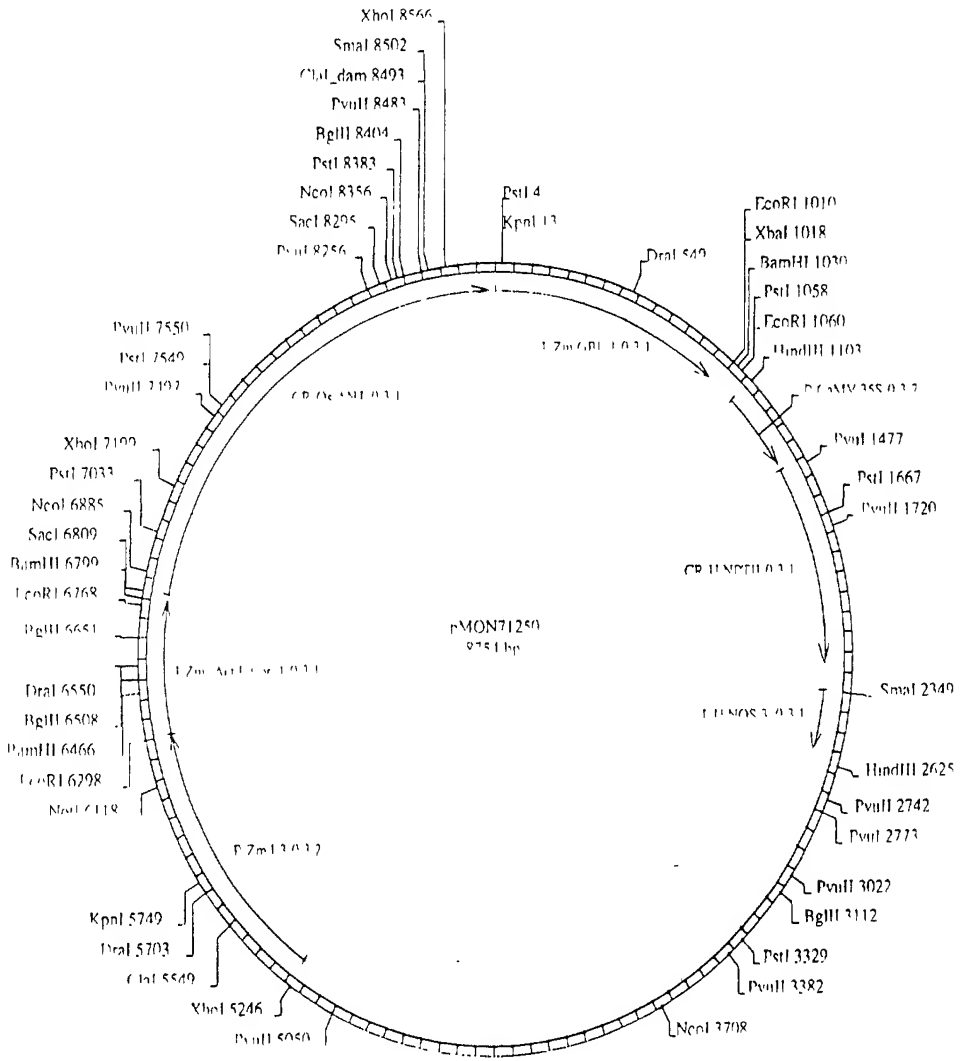

pMON57991
11467 bp
PvuI 315
PvuII 907
PstI 964
PvuI 1152
EcoRI 1559
PstI 1569
SmaI 1573
BamHI 1577
XbaI 1589
NotI 1596
HindIII 1609
NcoI 1852
SacI 1861
DraI 2025
StuI 2114
POX1
PvuI 2697
PvuII 2810
PvuII 2901
StuI 3033
BglII 3211
DraI 3253
BglII 3353
PvuII 3630
BglII 3756
BglII 3795
NcoI 3886
BglII 4183
ClaI 4312
XhoI 4477
BglII 4718
PstI 4760
HindIII 4762
EcoRV 4820
SalI 5156
ANT
E9 3'
RB
aad
PstI 6351
PvuI 6224
DraI 5968
DraI 5891
PstI 5844
XhoI 5828
NotI 5822
SmaI 5817
BamHI 5810
PvuI 6825
DraI 7665
DraI 7646
PstI 7290
ori-322
rop
PvuII 8831
DraI 10828
PvuI 10249
ori-V
lox1
NOS 3'
MPTII
P-35S
lox1
wt CAR leader
ract1-intron

Figure 18


XhoI 8566
SmaI 8502
ClaI_dam 8493
PvuII 8483
BglII 8404
PstI 8383
NcoI 8356
SacI 8295
PstI 8256
PstI 4
KpnI 13
DraI 549
EcoRI 1010
XbaI 1018
BamHI 1030
PstI 1058
EcoRI 1060
HindIII 1103
PvuII 1477
PstI 1667
PvuII 1720
SmaI 2349
HindIII 2625
PvuII 2742
PvuII 2773
PvuII 3027
BglII 3112
PstI 3329
PvuII 3382
NcoI 3708
XhoI 5246
KpnI 5749
DraI 5703
PvuII 7550
PstI 7549
XhoI 7199
PstI 7033
NcoI 6885
SacI 6809
BamHI 6799
EcoRI 6768
BglII 6651
DraI 6550
BglII 6508
BamHI 6466
EcoRI 6298
pMON71250
9754 bp